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Fisheries and Oceans Canada Pêches et Océans Canada
Canada

A STRATEGY FOR ACHIEVING INTEGRATED MANAGEMENT

A Strategy For Achieving Integrated Management

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I. BACKGROUND

The ocean and its associated coasts are defining characteristics of the Maritime Provinces. In large measure it is this proximity to the sea that circumscribes the region's heritage and shapes its future. Achieving the sustainable development of the coastal and ocean resources is one of the critical keys to wealth generation and prosperity in the region. The quality of the marine environment, however, is deteriorating as coastal use increases.

The main reasons cited by most scientists for the deterioration of the marine environment throughout the world are:

- overharvesting of resources;
- habitat degradation or destruction;
- population growth;
- pollution; and
- global warming.

These problems are greater in the coastal zone. The majority of the world's population inhabit the littoral regions of the world. Conflicts among stakeholders increase as the pressure to use the dwindling resources and space increase. Landbased sources of pollution are considered the major factor in the steadily declining health of the marine environment. Certain coastal areas must be closed for recreational, shellfish extraction, and other activities.

Relative to most littoral areas of the world, the Maritime provinces enjoy a coastline that is largely unspoiled by pressures such as those exerted by heavy industrial development. Further, with a few notable exceptions, it does not have the pressing problems associated with high population densities. This region, like all coastal areas, has substantive conservation and management issues which must be addressed if it is to achieve sustainable economic development. Under the current management regime, many economic opportunities are either not being realized or are in danger of being forfeited due to:

- localized deterioration in estuarine and nearshore water quality (more than 300 locations throughout the maritimes);
- failure to manage human activities, and their impacts on coastal resources, resulting in unsustainable development; and
- jurisdictional uncertainty, gaps, duplication and confusion.

Environmental deterioration is often linked to economic dislocation and hardship. The recent collapse of the east coast ground fishery, for example, has far reaching economic, environmental and social consequences. There are many lessons to be learnt from this crisis, including the need to adopt a precautionary approach in planning and managing coastal/ocean resource development; and the need to adopt the principles of environmentally sustainable economic development. While often less attractive in the short term, it is clear that such concepts, embraced in Agenda 21, are in the long term interest of this region and its coastal communities.

Throughout the world, academics and practitioners, have struggled to develop models for the conservation of resources and rational management of the people who use them. Integrated resource management is the theoretical underpinning to ensure sustainable resource exploitation. This concept has been implemented with **some** success in land-use planning and in forestry. Over the last few years, IRM has been incorporated into the planning and managment of the coastal areas. Integrated Coastal Zone Management is an accepted international term to describe an approach to conserving and managing the coastal areas.

Defining the Coastal Zone

Wherever the topic of integrated coastal zone management is discussed, one of the most frequently asked questions is "what or where is the coastal zone?" Resource specialists, marine lawyers, industry, government and community groups have attempted to reach consensus on delimitating the boundaries of the coastal zone. Should it extend seaward 200 m, to the 12 mile limit, or to the 200 mile outer boundary of the Exclusive Economic Zone? Landward: should the coastal zone be confined to a thin strip of land immediately along the land water interface? Should an arbitrary inland distance of 1km be set to allow for adequate controls over land use developments in coastal areas? Would it be more meaningful to define the landward limit of the coastal zone in terms of watersheds, ecological units or a specific height of land above sea level? Perhaps it would be preferable to define the coastal zone on an issue by issue basis.

A multi-stakeholder group (under the auspices of the Nova Scotia Land Use Committee) was recently asked to define the coastal zone in Nova Scotia. The group decided that the best approach might be to start by describing the scope of issues and interests to be addressed in coastal zone management and allow the breadth of these issues and interests to lead towards a rational definition of coastal zone. The definition that emerged extended the coastal zone out to the 200 mile limit of the Exclusive Economic Zone and included all of the land base of the province. A functional definition of the coastal zone is influenced by the nature of the issue or concern addressed. For some issues the coastal zone may extend beyond the 200 mile EEZ. For other issues, such as strategic development of the aquaculture industry, a much narrower definition may suffice. To date there is no universal definition for the coastal zone, nor a legal definition in Canada.

ICZM

Integrated Coastal Zone Management (ICZM) is often defined as *a dynamic process in which a coordinated strategy is developed and implemented for the allocation of*

environmental, socio-cultural and institutional resources to achieve the conservation and sustainable multiple use of coastal resources. The World Coast Conference Report in 1993 defined ICZM as involving *the comprehensive assessment, setting of objectives, planning, and management of coastal systems and resources, taking into account traditional, cultural and historical perspectives and conflicting interests and uses; it is a continuous and evolutionary process for achieving sustainable development.* Both these definitions imply the need for a new system of governance to integrate the planning and management of all activities in coastal areas. The objective of ICZM is to maintain or enhance the ecological integrity of the land-sea interface by optimizing environmental protection, public use and economic devlopment.

Policy decisions under the ICZM concept, are made within a logical or strategic framework. Coordination is achieved through the cooperation and partnership amongst stakeholders, (federal, provincial and municipal governments, aboriginal peoples, NGOs, industry, coastal communities, etc.). Integrating the different sectors in a strategic plan is necessary to achieve the dual objectives of economic prosperity and environmental integrity. Some fundamental issues must be addressed, however, before a national ICZM policy can be formulated and implemented:

- Who should take the lead?
- What is the role of government?
- What is the role of coastal communities?
- What is the role of other stakeholders?
- How are partnerships formed?
- How is consensus reached?
- How are conflicts avoided and resolved?
- What is the long term goal? What are the short term objectives?
- How are these goals and objectives achieved?

This report makes concrete recommendations to DFO, as the lead agency identified under the proposed *Oceans Act*, on an approach to seek answers to these questions, and suggests the establishment of a pilot community-based Model Coasts program in the Maritime region.

Jurisdictional Issues

In Canada, the complexity of governmental responsibility in the coastal zone finds its basis in the division of powers between the federal and provincial levels of government, as established in the *Constitution Act (1867)*. Generally, the federal government has jurisdiction over all matters extending across provincial boundaries or involving international relations. Federal jurisdiction also includes smaller localized areas within provinces including federally owned lands (e.g., international airports, parks and ports) as well as lands for Aboriginal peoples.

Jurisdiction over land and freshwater resources vests primarily with the provinces (with the exception of navigable waters, fisheries and federal lands). Jurisdiction over the marine environment is shared and fragmented. Overlapping jurisdiction, particularly in the inshore and nearshore environments, occurs at the inter-provincial and federal/provincial levels. For example, in the nearshore (i.e., within three miles of the coast), the federal government has clear jurisdiction over navigable waters, pursuant to the *Navigable Water Protection Act*. Yet, in some jurisdictions, it is the provincial departments of Fisheries that license aquaculture operations and other provincial departments that lease bottom rights to provincial Crown lands underlying those same aquaculture sites. This jurisdictional melee can lead to confusion and conflict with lacunae left unaddressed.

Aboriginal self government and the corresponding rights and interests in coastal/marine resources introduces another jurisdictional layer and element of uncertainty. Superimposed on this national structure is the regional and international regime with its host of conventions, rules and guidelines. Environmental issues are inherently transboundary, crossing political frontiers. The need to integrate and coordinate these jurisdictional entities with their respective interests and responsibilities for resource management and environmental protection is critical.

The Need for Cooperation and Coordination

There are numerous, diverse stakeholders in coastal and oceans conservation and management who have many interests and often overlapping responsibilities. In some cases issues are not addressed as there are gaps in responsibility and jurisdiction. How can coherent direction be introduced which will balance individual interests with the collective interest of the broader maritime community? The principles of partnership, cooperation, communication, and networking are perceived as important elements in achieving a coherent, yet balanced, approach. These principles are equally applicable in the federal context as well as in communities.

There are clear opportunities to rationalize the delivery of services and programs in the coastal zone amongst government agencies and departments as well as across different levels of government. A coordinated ICZM policy and program **could** optimize the use of financial and human resources. By eliminating the duplication of effort in the existing structure, the tax dollars saved could be redirected to solve coastal zone management problems that are currently underfunded or not supported at all. New opportunities for wealth generation and sustainable development would be possible.

There is a significant opportunity cost associated with the region's fragmented approach. The inability to act in a coordinated and systematic manner to manage and protect the coastal and offshore environment is costly in both economic and environmental terms. The signs of environmental stress are already evident in the Northwest Atlantic marine ecosystem. The populations of groundfish, Atlantic salmon, cetaceans, seabirds, and other species are declining to the point of being classified threatened or endangered, due to anthropogenic impacts.

Shellfish closures are commonplace. The harbours in Saint John, Sydney, and Halifax are "hot spots". Clean-up efforts are hampered by staggering costs. Significant opportunities in the aquaculture industry have been lost due to multiple resource use conflicts; and development of offshore aggregate reserves has been stymied by uncertainty over which level of government has jurisdiction or ownership of these resources.

The *Health of Our Oceans*report states, *"the decline that has been detected* [in marine environmental quality] *can only be reversed and prevented in the future through having continued strong programs of conservation and protection"*. While a cooperative approach to managing and protecting coastal resources is a generally accepted concept, translating concept into action has proven difficult. No one department and no single government has the resources, capacity or mandate to implement the necessary conservation and protection programs. The need for accurate and additional information about the marine environment, the increasing number and variety of activities occurring in the coastal zone, and the overlapping institutional structure, all require cooperation to coordinate and manage the coastal area in a strategic fashion.

Federal Legislation and Policy Initiatives

While interest in coastal and oceans management has been present on the federal agenda for years, it is particularly in the last five years that substantive activity, both at the policy and operational levels has begun to yield significant results.

At a policy level, the proposed *Oceans Act* should be the legislative linchpin which will direct the federal agenda on coastal and oceans management into the next century. This new legislation promises substantive change in the approach taken by the federal government to the management of marine resources. It implicitly recognizes the need to adopt an integrated approach to coastal and oceans management based on the principles of cooperation and partnership with other stakeholders.

Under the umbrella of the new legislation, the federal government is re-organizing the Department of Fisheries and Oceans and Environment Canada in order to meet the obligations and responsibilities outlined in the act. Under the *Oceans Act*, the Department of Fisheries and Oceans will provide the lead federal role. One of the key initiatives over the next few years will be the development of a *Canadian Oceans Policy*, expected to be in place by the year 2000.

On a more operational level, the federal government is also committed to the development of an *Oceans Management Strategy* which will, on the basis of partnerships with other stakeholders, implement an integrated approach to coastal and oceans management. Amongst other initiatives, the strategy will deal with marine environmental quality and the establishment of standards for monitoring the quality of estuarine and nearshore waters. In addition, the strategy will provide for the identification and establishment of Marine Protected Areas, as a major element in the conservation and protection of the marine environment. All of these initiatives have the potential to provide the necessary umbrella framework within which operational programs will find a meaningful and coherent context. Rather than following a piece-meal and reactive approach to the management of resources and human activities, this framework of legislation, policies and strategies **should** help to plot a clear course for coordinated action. Until now, such a framework has not existed and its absence has resulted in little progress being made towards the achievement of sustainable coastal and oceans development despite our best efforts.

The *Oceans Act*, together with the policy and strategies that will follow, will help to rationalize the responsibilities and activities currently fragmented amongst numerous pieces of federal legislation. The Report of the NABST Committee on Oceans and Coasts identified approximately 30 pieces of legislation and 25 distinct program areas spread amongst six federal departments as having some impact on the management of coastal and ocean resources. Although the *Oceans Act* does not purport to immediately rationalize all of this within the one act, it does lay the foundation for more effective coordination and cooperation into the future. The strength of the new act lies, in large part, in its recognition of the central importance of integrated management and sustainable development through partnerships, networking and communications. These are considered to be the most effective tools for the future.

Federal Program Initiatives

The federal government has also been active in recent years at the program level in coastal zone management. The principal vehicles for these programs have been the Atlantic Coastal Action Program, implemented through Environment Canada, and the Community Coastal Mapping Program, implemented through Fisheries and Oceans. Both of these programs are delivered at the community level.

The Atlantic Coastal Action Program (ACAP)

ACAP was established under Canada's Green Plan in 1991 as a community based approach to developing comprehensive environmental management plans. The program targeted 13 key harbours and estuaries in Atlantic Canada for remedial action and strategic planning. Local community groups are encouraged and assisted in taking the lead in the development of remedial action plans for the recovery and sustainable development of these sites. The program, while facilitated with the assistance of Environment Canada is effectively within the control of the local community groups. A project manager is hired in each site and in most cases the community group is incorporated to direct and implement program activities. Opportunities are provided for full multi-stakeholder involvement in all aspects of decision making in integrated coastal resource management.

The program is considered successful in that community initiatives have achieved noticeable improvements in marine environmental quality and have resolved multiple resource use conflicts characteristic of the coastal zone. This experience demonstrates that change and progress can be realized in the Maritimes through community led and implemented initiatives. The role played by Government in this approach is to coordinate, facilitate, advise, provide information, scientific and technical expertise, and assist communities in reaching community defined objectives and goals within an agreed framework.

Community Coastal Mapping Program

A second, and more recent project, the Community Coastal Mapping Program, was initiated by the Department of Fisheries and Oceans in the maritime region. This program began as a pilot project in Shelburne County area in 1993. It has now expanded to include many other communities in Nova Scotia, New Brunswick and PEI. The entire maritime region is expected to be mapped under this program by the end of 1997.

Each community project is multi-stakeholder and heavily dependent on effective partnerships and cooperative ventures amongst the stakeholder groups. The model is similar to ACAP in that government provides assistance to those communities interested in taking the lead in developing the inventory of resources in their coastal area. This inventory serves as a basis for sustainable economic development plans, community education and awareness, environmental protection and emergency contingency planning. This program has been undertaken in partnership with ACAP sites in several locations as well as with Regional Development Authorities.

Provincial Policies and Programs in Nova Scotia

Legislation and Policy Initiatives

There are approximately 50 pieces of legislation and approximately 100 distinct program areas spread amongst nine departments of the provincial government having an interest in coastal resource management. No framework currently exists to coordinate these activities covered by these numerous legislative instruments and programs. The proposed *Coastal 2000*, if implemented, would provide a major step forward in coordinating these functions.

Program Initiatives

There are five key program initiatives in the province of Nova Scotia (proposed and/or in place) which could potentially assist coastal zone management. These include:

- Access Nova Scotia
- Regional Development Authorities

- Coastal Base Mapping Program
- Coastal 2000
- Regional Aquaculture Development Advisory Committees

The first two programs are primarily designed to improve the delivery of government programs, services and information at the community level. The third program is specifically aimed at the provision of digital base maps to communities involved in, or wishing to be involved in, coastal resource inventories in support of integrated coastal resource management. The fourth initiative is intended to coordinate government resources in the delivery of community based coastal resource management planning.

Access Nova Scotia

The present government has endeavoured to re-design and improve the delivery of provincial services and programs to clients. One of the key foci of Access Nova Scotia involves the establishment of "one stop shopping" centres for government information on business and land development throughout the province. Clients will be assisted and advised as how best to proceed (eg. permits, licenses or approvals required). The intention is to streamline the approvals process and facilitate economic development. Such a coordinated, decentralized network will facilitate coastal communities' efforts to diversify and develop their economies.

Regional Development Authorities

Regional Development Authorities (RDAs) are in the process of being established throughout Nova Scotia to replace the Community Futures and Community Economic Development groups. Legislative authority for the RDA's is anticipated during the current sitting of the legislature. The RDAs will be the recognized link for the delivery of all community economic development assistance provided by the federal and provincial governments. These groups are multi-stakeholder forums and are responsible for strategic and sustainable economic planning in each region. The RDAs will be important players in the implementation of any proposed coastal zone management program ensuring the integration of wealth generation with environmental conservation and protection.

Coastal Base Mapping Program

The Province of Nova Scotia has recently committed funding to develop a series of base maps depicting the coastal zone. The new map series will combine both hydrographic and topographic data for the land/sea interface. This series, scheduled for completion by 1998, will be available in hard copy and digital form. These maps will provide a consistent base for all community sponsored thematic mapping programs throughout the province.

Coastal 2000

In 1994, the Province of Nova Scotia distributed for public review and comment, a discussion paper entitled *Coastal 2000*. In this paper the province of Nova Scotia states it will "...embrace sustainable coastal zone development through integrated coastal resource management, founded on public and private partnerships, as an expression of provincial policy." *Coastal 2000* contains a framework of goals, objectives and action items. This was considered to be a progressive and leading-edge initiative, designed to implement IRM in coastal zone planning and developement. Despite its promising start, *Coastal 2000* remains a proposal with an uncertain future.

The original *Coastal 2000* initiative was based on four key principles:

i)Sustainable development, which includes:

- development of a stable environmental climate for renewed community economic development;
- recognition that longer term economic development must be based on principles of sustainable resource management and ecological pre-planning;
- establishment of operational linkages between environment and economy; and
- inclusion of traditional resource activities within an ecologically based framework of resource management and conservation.

ii)Recognizing that partnerships between community groups and government are critical to successful integrated coastal resource management.

iii)Commitment from government to provide communities with integrated and efficient service delivery.

iv)Empowerment of communities to make decisions on issues affecting them, recognizing that community priorities, issues and concerns must be addressed.

Regional Aquaculture Development Advisory Committees

Nova Scotia initiated a pilot project for the aquaculture industry in the Wedgeport and Pubnico area, in an attempt to avoid and resolve conflict at the local level and reduce the complexity and inefficiency of the approvals process. This pilot established a community-based, decision-making process for aquaculture development through a Regional Aquaculture Development Advisory Committee (RADAC).

Based on the success of the first initiative, eight other committees have been established throughout the province. Each RADAC has representatives from the key interest or stakeholder groups in their area. The responsibility of each RADAC is to review aquaculture license applications using a pre-determined set of criteria and make recommendations to the Minister of Fisheries. In most cases, the RADAC is really facilitating local decision making with respect to license approval with the Minister retaining final approval authority.

Provincial Policies and Programs in New Brunswick

Legislation and Policy Initiatives

The *Commission on Land Use and the Rural Environment (CLURE)* submitted its report to the New Brunswick government in 1993. The report recommended establishing a provincial policy to manage coastal resource development and protect the coastal ecosystem. A *Land Use Policy on Coastal Lands* is now being formulated. It is anticipated that a discussion paper will be released for public hearings later this summer or in the early fall. The intention is to focus the policy on specific coastal resource features and specific land use activities in the coastal zone so as to minimize the conflicts between resource management and environmental protection. The policy will be implemented on the basis of a coastal mapping program delineating key coastal features and resources.

Program Initiatives

There are two program initiatives in New Brunswick similar to those in Nova Scotia: Service

New Brunswick; and the Coastal Mapping Program.

Coastal Mapping Program

In direct support of the new *Land Use Policy on Coastal Lands*, the province has embarked on a coastal mapping program carried out through the New Brunswick Geographic Information Corporation. An ambitious program of orthophoto base mapping of all coastal areas is scheduled for completion in 1996. The orthophoto base maps will be used as background for mapping all coastal features, resources, and lands to be included within the coastal policy.

Service New Brunwick

New Brunswick has also established offices in the province designed to improve the delivery of provincial services and programs. Information on provincial government services, approvals processes, permits, licences etc. can be obtained from one location. Eventually, permits, licenses and approvals will be obtained from this location. The intent, as in the other maritime provinces, is to facilitate access to government information, simplify the process of identifying permitting and other regulatory requirements, and reduce "red tape". The government of New Brunswick intends to streamline this process so that

Provincial Policies and Programs in Prince Edward Island

Legislation and Policy Initiatives

Prince Edward Island (PEI) has had a successful *Coastal Policy* in place under its *Planning Act* since 1992. The primary purpose of this policy, and its associated regulations, is controlling the development along the land/water interface. A major review of the *Planning Act* is in the offing. It is not known what implications this review will have on the *Coastal Policy*.

Program Initiatives

One Stop Shopping

As with the other the provinces of Nova Scotia and New Brunswick, PEI has its own version of single window access to government information and approvals processes called *One Stop Shopping*. All development approvals are under the authority of one department, Provincial Affairs and Attorney General.

Round Table

The government is planning an initiative to establish a round table on land-use. This round table is to be a multi-stakeholder group responsible for making recommendations to government on the implementation of the findings of the 1990 *Royal Commission on the Land*.

Regional Coastal Zone Initiatives

A number of important regional initiatives have been active in recent years in different aspects of coastal zone management. These include:

The Gulf of Maine Council on the Marine Environment (GOM)

The Gulf of Maine Council on the Marine Environment was established in 1990 through the cooperation of the States of Maine, Massachusetts and New Hampshire and the Provinces of Nova Scotia and New Brunswick. The Council, through the Gulf of Maine Working Group and its various sub-committees, is responsible for implementing a 10 year action plan to "maintain and enhance marine environmental quality in the Gulf of Maine and to allow for sustainable resource use by existing and future generations."

The action plan articulates objectives within the broad areas of:

- monitoring and research
- coastal and marine pollution
- habitat protection
- education and participation
- protection of public health

The Council is into the second half of its mandate. Notable efforts to date include data and information management, a shell fish monitoring program for tracking changes in marine environmental quality, and a report on long term economic prospects for the Gulf of Maine. The partnership has been beneficial to all participating states and provinces and represents an example of cross jurisdictional cooperation in the region.

East Coast of North America Strategic Assessment Program (ECNASAP)

The East Coast of North America Strategic Assessment Program is a joint undertaking between the U.S. and Canada designed to strategically assess resources and the environment along the eastern coast of North America. Pilot projects are now underway designing strategies for sustainable development of shellfish resources in southwestern New Brunswick and evaluating the Atlantic demersal community structure.

This project provides the snapshot overview of the availability of natural resources as well as the condition of the environment. Rational decisions concerning individual resource development projects or environmental remedial action plans can be made within this framwork. A significant component of this program involves the development of protocols for international cooperation in strategic environmental assessment.

Coastal Information Technology Architecture Program

The Coastal Information Technology Architecture Program (CITAP) can be defined as "a set of agreements and procedures which will encourage and facilitate the flow of data and information in support of coastal management". CITAP is supported by the three Maritime provinces and a number of federal government departments and agencies. It is premised on the fact that integrated coastal zone management requires timely, accessible and accurate coastal and ocean data. CITAP is intended to facilitate the flow of data and information from data providers to data users and amongst data providers and data users.

CITAP, is still in the developmental stage. A pilot project has been initiated in which the protocols and procedures for data and information exchange will be worked out in the context of two or three key information products requiring data inputs from a variety of sources.

Atlantic Coastal Zone Information Steering Committee

The Atlantic Coastal Zone Information Steering Committee (ACZISC) was established in 1991 and has been operational since January 1992 to:

- foster the implementation of information management
- provide a forum for coastal zone projects
- minimize duplication
- identify funding sources and opportunities
- link with other relevant groups
- assist alliance creation

Membership on the ACZISC is drawn from the four Atlantic provinces plus Quebec, seven federal government departments and agencies, two key industry groups and four miscelleneous other national or regional agencies. ACZISC has a number of core activities including: development and maintenance of an electronic directory of coastal data and information; the coastal information technology architecture project, coastal standards, and coastal mapping. The committee serves as a focal point for monitoring progress in the region with these projects and provides opportunity for information exchange, partnership and cooperative ventures. There is an ongoing need to integrate resource information management technology with resource development and environmental policy.

The Atlantic Accord on Integrated Management of the Coastal Zone

The concept for the Atlantic Accord on Integrated Management of the Coastal Zone (the Accord) was conceived in a multi-disciplinary coastal zone management workshop in Fredericton, New Brunswick in the fall of 1993. Consensus was reached that a regional accord on integrated coastal resource management was needed. The goal of the Accord is to "achieve a major contribution toward the sustainable economic recovery of the Atlantic Provinces by the integrated management of the coastal zone of the Region." The proponents of the Accord have tried, unsuccessfully, to generate government support for its implementation.

The Need for ICZM

A strategic integrated approach to coastal zone management is essential to acheive sustainable use of the coastal zone. Coastal zone management in the region is still fragmented amongst numerous departments and agencies of multiple levels of government, local community groups, and industry. No recognized forum for multi-stakeholder consultation or consensus building has been established. Consequently, many initiatives are proceeding unaware of other initiatives and, unaware of lost opportunities. It is evident from this background review that there are a number of on-going needs.

Jurisdictional uncertainties continue to cause potential overlaps, duplication of effort, conflicts and gaps in coastal program and policy initiatives.

A strategic, integrated approach to coastal zone management in the maritime region is needed instead of fragmented, uncoordinated initiatives.

Accurate and additional information about the marine environment is needed.

Information needs to be compiled, managed, analyzed and strategically integrated into the planning process for use by policy analysts, decision makers and resource and environmental managers.

A forum must be established enabling individual coastal policy and program initiatives to network effectively to achieve cooperation and partnership.

The need for an integrated, cross-sectoral, coastal management strategy for the maritime region is widely acknowledged. The enactment of the *Oceans Act* presents an opportunity for the federal government to establish the framework within which ICZM can develop. Significant barriers to change and progress on the east coast continue to include competing federal and provincial jurisdictional claims and responsibilities. Serious gaps and overlaps exist in the institutional mosaic. It is this complex, confusing, uncertain and ill conceived bureaucratic and legislative structure that impedes the formulation and implementation of an integrated approach to coastal zone management. If significant progress towards the achievement of sustainable coastal development and sustainable coastal communities is to be realized by the year 2000 a new basis for partnership and cooperation must be found. A model for cooperation must be developed that provides an accepted forum for building consensus on priority issues, objectives and actions in coastal zone management and helps to get stakeholders beyond jurisdictional wrangling. The challenge is both in the development of the partnership model and in securing the endorsement of the key partners.

II. THE CHALLENGE: AN APPROACH TO ESTABLISH ICZM

Having reviewed the present context, the question remains: how to effectively plan and implement an integrated coastal zone management program in Canada. A national/regional coastal zone management program is needed. It is clear, under the *Oceans Act* that the Federal government regards this as a priority under the proposed *Oceans Management Strategy*. The Department of Fisheries and Oceans is to assume the federal lead role. How this role is defined is unclear. Prior to formulating a national ICZM program, however, government must remove the jurisdictional and institutional constraints that frustrate developing a coordinated, strategic effort. Government departments must function in an integrated, partnership, fashion to deliver the required program in the land/coastal/marine interface. This will be a protracted process. To begin addressing the legal/institutional issues, and formulating a national ICZM policy, a series of visioning workshops is recommended. The suggested approach for these strategic planning exercises is outlined in the next section.

It is recommended that government not wait for the *Oceans Management Strategy* to be in place before introducing discrete ICZM initiatives in the regions, as illustrated by the successful ACAP and Coastal Community Mapping Program. It is recommeded that Canada adopt a two prong approach:

- 1) develop the national ICZM program under the *Oceans Management Strategy* over the next four years; and

- 2) initiate in 1996-1997 well-defined, community-based, coastal zone management pilot projects in the region building on the success of the ACAP program.

Such an approach is consistent with the international ICZM experience. A pilot community-based ICZM program is recommended for the Maritime Region, based on the lessons learned in the ACAP, Model Forest Program and the Business Centre concept. The elements for the proposed pilot, *Model Coasts*, are outlined in the next section.

Designing A Pilot: Underlying Principles

The kind of government leadership required in this multi-stakeholder environment, many believe, is not the conventional "command and control" through the "design, announce and defend" process. Many stakeholders are wary of government programs and skeptical of institutionalized consultation where they believe their views are neither heard nor considered. Rather, a different approach to governance is suggested: an approach based on achieving agreed goals and objectives through multi-stakeholder partnerships. This was the approach adopted in the Model Forest Program and ACAP. The role of government under these programs is to advise, coordinate and support community based initiatives through a cooperative partnership.

Underlying the development of this pilot are several guiding principles: Integrated; Coordinated, Participatory; Transparent; Cost-effective; Cooperative; and Precautionary.

Any coastal community wishing to participate in integrated coastal resource management should be eligible to participate in the model coast initiative. It is recommended that the detailed process by which a community initially gets involved, and eventually adopts and implements a strategic plan for their particular model coast, be developed in a pilot project which will be outlined in the remainder of this report.

III. BUILDING A COORDINATED AND COOPERATIVE REGIME

1. Pursuant to the proposed *Oceans Act*, DFO will assume the federal government lead in coordinating the ICZM programs developed under the Oceans Management Strategy. To date the department has concentrated its resources on the fisheries portfolio. It must now expand its mandate to include the protection and conservation of ocean space and the rational management of coastal/marine activities. A new set of internal policies, procedures and programs are required to undertake this role. DFO must develop clear objectives and goals for ICZM and define the role it wishes to play under the new regime. It is recommended that DFO formulate this vision through a consensus building strategic planning exercise. This exercise should be the first step in a national process to achieve an ICZM policy. Ideally, major stakeholders should be aware of the process from the start.

2. It is recommended that the government of Canada carefully consider the innovative "future search conference" approach developed by Martin Weisbord. This approach has a proven track record of successfully creating a shared vision, commitment and collaborative action with diverse interests and contexts. Using a self-managing format, participants (50 to 300) come together for a two or three day conference to seek common ground among their varied interests, invent ideal futures rather than work old problems, and generate creative strategies, action plans, and commitments.

3. DFO should contract a team of highly-skilled, professional future search facilitators to organize and conduct this three day departmental workshop. Ideally one facilitator would also be a coastal and marine policy specialist. A discussion paper on ICZM in Canada should also be prepared by an independent consultant as background, highlighting the key issues and the possible role(s) to be played by DFO and other government departments. This paper, to be circulated in advance to particpants, would serve as a "think piece" to assist the participants in defining the department's ICZM goals, objectives and action plans. The output of this strategic planning exercise would be a draft DFO document proposing its vision for ICZM in Canada, with clearly articulated goals, objectives, action plans, centres of responsibility, performance indicators, etc.

4 DFO should take the lead in overcoming the legal/institutional constraints identified above

and create a common government vision for ICZM, by building partnerships and consensus with other federal government departments. To do so, it is proposed to repeat the consensus-building, strategic planning exercise with representatives from other federal government departments. For consistency, the same facilitation team would be contracted, assuming DFO was pleased with the contractor. Both the discussion paper and the DFO vision document would be circulated in advance to all participants. The output of this strategic planning exercise would be a Government of Canada document proposing its vision for ICZM in Canada, with clearly articulated goals, objectives, action plans, defined roles for the respective departments, centres of responsibility, performance indicators, etc.

5. The next step would be to coordinate and harmonize the federal governments proposed vision with that of the provinces and the Aboriginal peoples. A separate workshop would be held with each region i.e the Atlantic provinces, the West coast, the North and with the Aboriginal representatives. Again for consistency and consensus building, it may be preferable to have the same facilitators undertake these workshops as well. The output of this strategic planning exercises would be a document proposing the governments' vision for ICZM in Canada, with clearly articulated goals, objectives, action plans, defined roles, centres of responsibility, performance indicators, etc. A successful series of strategic planning workshops should provide the first step toward overcoming the institutional constraints required to develop an integrated coastal zone management program in Canada.

Prior to the federal/provincial/aboriginal workshops, each region should pursue a similar strategic planning process. This is particularly pertinent for the east coast given the diverse CZM policies and initiatives in each of the Atlantic provinces and Québec. Documents will be prepared and circulated following each workshop identifying the governments' goals, objectives and actions for ICZM and the respective roles and activities of the coastal provinces.

6. These governments should jointly engage in a similar strategic planning process with community groups and other stakeholders. The desired result of this sequential program of visioning workshops would be to build consensus and develop a multi-stakeholder vision.

Thus there would be a series of strategic planning workshops to develop a common vision for ICZM in Canada in the following order:

- DFO;
- DFO and other federal government departments;
- The federal government, coastal provinces (each region), and Aborignal peoples; and
- Federal/provincial/Aboriginal governments with key community and other non-government stakeholders.

The visioning process is not an end in itself. The priority actions and assigned responsibilities must then be implemented, adjusted where necessary. See Appendix 1 for additional information on strategic planning and visioning workshops using the future search conference approach.

IV. PILOT PROJECT: ESTABLISHING A MODEL COAST NETWORK

As progress is made to formulate and implement a national framework for coastal zone management, government agencies can reinforce, further develop and support maritime coastal communities' interest in coastal zone management issues. It is recommended that

DFO, as the lead federal agency responsible for ICZM under the OMS, should establish a *Model Coast* pilot program in the Maritime region. The objective of the Model Coast project is to develop a network of ICZM initiatives leading to sustainable coastal management. This program is equally applicable to Newfoundland, Québec and the other coastal regions. If successful the pilot could be adapted and applied to the other regions.

Overview

This pilot was conceived based on the conceptual framework of the Model Forest program established under the Green Plan for a Healthy Environment. Lessons were also drawn from ACAP, which has enjoyed considerable success in the Maritime Region, in implementing community based coastal management initiatives. Additionally, the Business Centre Program is a useful precedent to examine with respect to mechanisms to overcome jurisdictional factors.

The pilot is designed as a staged, or stepwise, implementation of Integrated Resource Management where the principles of sustainable development and integrated coastal management serve as guideposts for community action. In this community-based, community-led ICZM program, the federal and provincial governments act in a coordinated, cooperative fashion to advise, strengthen and support community action. Coastal communities actively seek economic stability and desire economic development. These communities understand the environment/economy balance: the need to use the resources while maintaining or improving the environmental integrity of the coastal/marine ecosystem. The link may not be quantifiable but it is understood. This pilot is intended to provide selected coastal communities with an opportunity to apply innovative approaches, procedures, techniques and concepts in the conservation, management and development of the adjacent coastal zone.

More understanding is required about the ocean system, biodiversity, and the impacts of human intervention. Some communities are better organized than others and have begun to apply sustainable devlopment concepts in their economic planning and resource use practices. Regardless of the knowledge base, a change in approach and attitude is generally acknowledged as imperative. Coastal communities in the Maritime region recognize that marine resource exploitation must be managed on an ecosystem basis not a single species or single activity; similarly, these communities recognize there are multiple values and different stakeholders within each community. Conflicts must be resolved and activities planned and managed in a strategic, sustainable framework.

The total costs of a five year Model Coast Pilot program are projected to be $20 million. It is estimated that $15 million would be required to underwrite 20 Model Coast communities over five years. This is calculated on the basis of $150,000.00 per year per community. This figure is based on the core budget plus project funds provided to ACAP sites. This amount was thought reasonable by many of those canvassed. An additional $4 million is allocated to cover the costs of the Coastal Zone Management Bureau for the Maritime Region and $1 million for the Model Coast Network Advisory Council. Funding to support the pilot should come primarily from government. Given the practical link connecting the Model Coast concept to economic development, the Regional Development Agencies and ACOA are obvious funding sources. Government support for the pilot could be supplemented by other stakeholders and activities.

The Model Forest Program

Under the Model Forest Program, a network of large scale working models of sustainable forestry were to be established in each of the major forest regions of Canada. Its goal was to

shift the management of Canada's forests from sustained yield to sustainable development. The program was designed to accelerate the implementation of sustainable development in forestry. It was composed of three components: a network of model forests, complemented by an enhanced research program and an information program. This initiative had a national allocation of $100 million over five years.

The program was announced in September, 1991. Criteria were established in accordance with integrated resource management principles. A public request for proposals was issued to parties interested in creating Model Forests. Each proposal was required to identify a broad range of partners and outline a management structure. In addition, they had to set out visions and specific goals and objectives. Proponents had to demonstrate how they would communicate principles and procedures for sustainable development of the forest resource and serve as technology transfer agents.

Fifty proposals were received by early 1992. Ten were selected based on the criteria set. The competition was administered by a National Advisory Committee on Model Forests who recommended the selected proposals. The successful sites were announced in June, 1992. Each Model Forest negotiated a contribution agreement with Natural Resources Canada. Each site is incorporated as a non-profit organization composed of various stakeholders. All are managed by a Board of Directors consisting of active stakeholders. A representative from the Canadian Forestry Service sits as an ex-officio member on each Board. These Boards are supported by employed staff.

MODEL COASTS PROGRAM

Criteria

DFO should establish a multi-stakeholder advisory committee in the region to administer the Model Coasts competition. This committee would be charged with developing criteria or terms of reference for the request for proposals. These criteria should be in accordance with the principles of integrated coastal zone management. Guidelines would emphasize the importance of multi-stakeholder partnerships, cooperation, integration, and consensus building.

Each community's proposal must be a multi-stakeholder, collaborative effort. Proposals must outline a management structure, with a proposed vision, and specific goals and objectives for the coastal zone. In keeping with the concept of integrated multi-stakeholder partnerships, each model coast proposal should identify the key stakeholder groups and how consensus will be reached in achieving sustainable coastal zone management and sustainable coastal communities. Certain communities may wish to pursue a strategic planning visioning exercise recommended in the previous section, as part of the proposal writing process. Guidelines and funds for proposal preparation should also be provided to communties.

Under this pilot, each coastal community would define itself, and delimit its coastal zone. It is recognized that what constitutes a "community" and what is included within the "coastal zone" may vary from community to community and, to some extent, from issue to issue. Rather than imposing a definition for "coastal community", emphasis should be placed on forging the required multi-stakeholder partnerships and building a collaborative planning framework. Communities will presumably define themselves on perceived sphere of influence and stakeholder composition.

Defining the coastal zone is also problematic. There is no universally accepted delimitation of the landward nor the seaward boundaries of the coastal zone. There are many

approaches deployed internationally. Canadian legislation is silent on the limits of the coastal zone. It is therefore preferable for the purposes of the pilot to allow each Model Coast community to set the boundaries of the coastal zone depending on site-specific issues. Allowing the issues to define the boundaries is a practical approach to coastal resource planning and management.

Issues beyond the boundaries of the Model Coast and transboundary issues, would be the responsibility of the Model Coast Network, the Coastal Zone Management Bureau and the Model Coast Network Regional Council.

Request for Proposals

The Model Coast program should be officially announced inviting coastal communties in the maritimes interested in creating Model Coasts to apply. A public request for proposals, (RFPs) will be issued. All coastal communities would be invited to apply. The terms of reference and selection criteria should require proponents from those interested communities involved in ACAP and the Coastal Mapping Program, to demonstate that the funds and human resources would build upon the foundation established to develop an ICZM Model Coast community.

The Selection Process

The multi-stakeholder advisory committee administering the Model Coast competition will review and select successful proposals based on the terms of reference included in the RFP. A contribution agreement will then be negotiated with each successful Model Coast Community. Each Model Coast Community (MCC) will be responsible for implementing their Model Coast strategic plans as negotiated on the basis of the contribution agreements.

The Program

Each Model Coast will be tailored to meet the needs, issues and characteristics of the respective coastal community. Recognizing the futility of finding a uniform "cookie cutter" to effectively address the variable coastal zone settings, the Model Coast deploys the adaptive management approach. Standards and common response mechanisms may be developed by the Model Coast Network, but the approaches of individual Model Coast Communities may differ.

Each Model Coast Community (MCC) will be supported by two government extension service officers, one provincial and one federal. These extension officers will work together as a team to support the one or more MCCs to which they are assigned. They will assist with needs identification, program coordination and on-site program delivery, where requested by the MCC.

The MCCs will be interconnected through computerized electronic mail, and conventional modes of communication, to form a Model Coast Network. This network of Model Coast Communities is intended to establish a working framework to acheive sustainable coastal management. Directors of each Model Coast Community will communicate on a daily/weekly basis, providing information, sharing ideas, identifying transboundary problems, formulating strategies for sustainable development, etc. Similar virtual networks are operational and successful in a variety of contexts. This is an effective and efficient system.

The Coastal Zone Management Bureau

Drawing on the Business Management Centre concept, an interdisciplinary Coastal Zone Management Bureau (CZMB) will be established serving the Model Coast Communities. The proposed Bureau would be incorporated at arm's length from government, as a not-for-profit organization. Personnel from key federal and provincial government agencies would be seconded to the Bureau. This small, dedicated policy-planning group would be housed off-site. To be successful in partnering with the communities, the Bureau should be situated 'off-site' from the premises of either provincial or federal government as with the Business Centre concept. The group would be responsible for coordinating the delivery of services and programs in support of the Model Coast program as well as program analysis, monitoring and evaluation. Additional technical expertise (from BIO, AGC, etc.) and the private and non-government sector would be requested as the need arose. The provision of information, advice, and assistance in matters of local concern are primary functions of the Bureau.

The Bureau will act as a forum or mechanism:

- for information gathering and dissemination on government programs and services
- to provide information helpful to decision making at the local level
- to identify gaps in information available to communities to make decisions about sustainable economic growth and environmental management
- to provide advice and assistance to communities in the development of economic opportunities
- to provide information and advice to government on priorities within communities

The Bureau would communicate through computer-linkages to the MCCs and be hooked into the Model Coast Network. The CZMB will coordinate the provision of information, training, capacity building, public education programs, and resource advisory expertise in support of the MCCs. In addition, the Bureau would identify and act on issues beyond the coastal zone boundaries set by the MCCs and would also assist with coordinating transboundary issues and interests.

The Model Coast Network Regional Advisory Council

A Model Coast Network Regional Advisory Council would be established composed of the project director from each MCC. The members of the CZMB would sit as ex officio members of this Council. The Council would meet every six months. The Council would monitor progress of the Model Coast Program and provide advice and recommendations to the MCCs and to government. The Council will serve as an effective interface between communities and the CZMB in discussion of policy and planning matters. The Council will develop strategies, standards, and guidelines; identify training programs, information needs, etc.; will deal with enforcement and other contentious issues confronting the MCCs.